Pit Sentry Safety System

Major General Carl B. Jensen
Marine Corps Installations East

Background

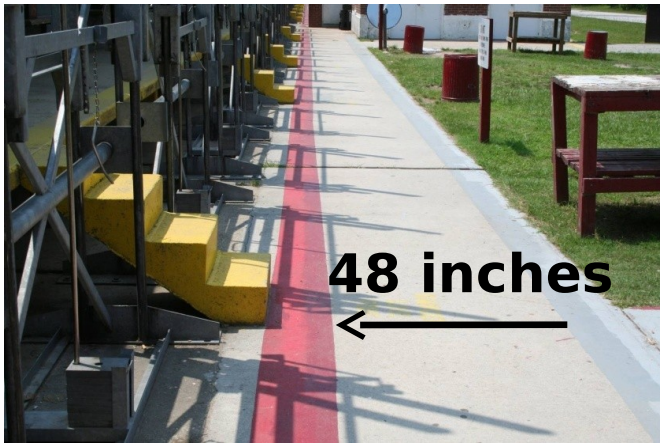
- A Corpsman assigned to WTBN, MCBCL was located in a known danger zone (beyond the red line) for most of the morning in the C-Range Pits during a live-fire exercise.
- A round fired from the 500 yard line hit the bottom of Target 29 and was deflected downward.
- Simultaneously, the Corpsman was backing up further into the danger zone to allow a shooter to transit to the target shed.
- The deflected round struck the Corpsman in the chest and punctured his heart.

Problem

- Proximate cause of this tragic, entirely preventable mishap was the reckless, repeated grandstanding of the Corpsman beyond the red line.
- Contributing factors were the failure of those witnessing the Corpsman's transgressions to act decisively to either call a cease fire or eject the Corpsman from the range.
- Needed is a more reliable system to prevent recurrence.

Immediate Actions

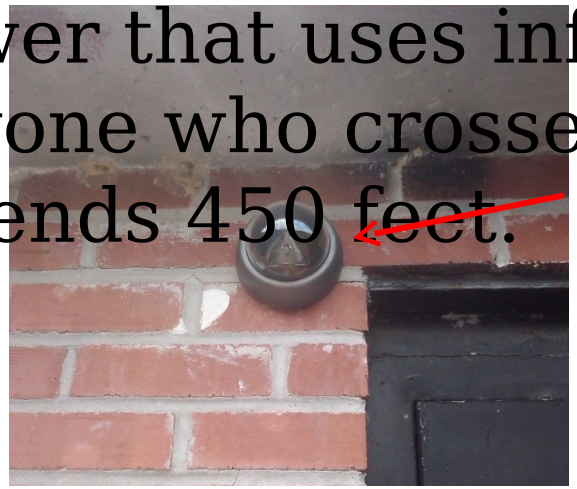
- Relocation of red line
- Installation of mirrors & updated warning signs



- **We can do better!**

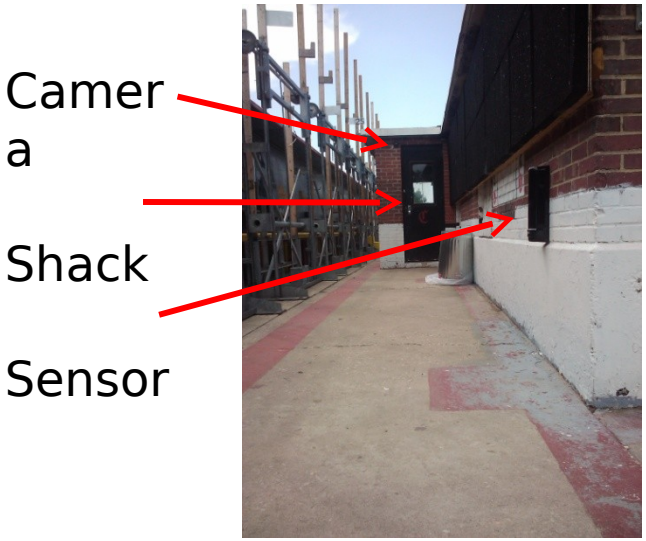
Advanced Actions

- Procure a means of detecting all red line violations so immediate actions can be taken by range personnel.
- Solution: A Pit Sentry Safety System, complete with wireless visual and audio devices installed in the Pit Shack and Firing Tower that uses infrared beams to detect anyone who crosses the red line, which extends 450 feet.



Pit Sentry Safety System

- A digital video recorder (DVR) will show and record visual activity in the Pit Area during live fire to identify violator(s) who enter the danger area.
- The System instantly warns the Pit NCO, Tower NCO, and Range OIC of any red line violations.



Cost / Benefits

- Cost
  - 3 at MCB Camp Lejeune: $51,582
  - 1 at MCAS Cherry Point: $20,416
- Added Benefits:
  - Pit NCOs can view the video monitor to determine when targets are Up/down, marked slow, canted in the carriage
  - Increased proficiency in pit service

Recommendations

- Procure and install similar systems at all Known Distance (KD) ranges throughout the Marine Corps.